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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,645	02/20/2004	Daniel L. Pleasant	10030906-01	7349

7590 03/22/2007

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER	
PIERRE LOUIS, ANDRE	
ART UNIT	**PAPER NUMBER**
2123	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,645	PLEASANT, DANIEL L.	
	Examiner	Art Unit	
	Andre Pierre-Louis	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-16 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 20 February 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-16 have been presented for examination.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jamneala et al. (U.S. Patent No. 6,804,807), in view of Piratelli-Filho et al. (Uncertainty Evaluation in small angle Calibration using ISO GUM Approach and Monte Carlo Method, June 2003).

2.1 In considering the independent claim 1, Jamneala et al. substantially teaches a method of determining a measurement uncertainty of a test system comprising: developing a test system model having a plurality of uncertainty terms (*fig.5 (502), col.7 lines 63-64*); entering the test system model into a simulator (*fig.5 (504), col.7 lines 63-65*); running a sufficient number of iterations of the test system model on the simulator while randomly varying each of a first portion of the plurality of uncertainty terms within probability distributions to produce a statistically significant number of results of a selected parameter (*fig.5 (510-512), col.6 lines 51-58 & col.8 lines 12-23*); and evaluating the results to determine a measurement uncertainty of the selected parameter (*fig.5 (518), col.8 lines 12-23*). Although Jamneala et al. does not clear state the term measurement uncertainty, he teaches simulating the system to obtain simulation results and match them with measured values (*see fig.5*). Nevertheless, Piratelli-Filho et al. substantially

teaches a method for determining and evaluating measurement uncertainty using ISO GUM and Monte Carlo method (*see title*). Piratelli-Filho et al. and Jamneala et al. are analogous art because they are from the same field of endeavor and that the method teaches by Piratelli-Filho et al. is similar to that of Jamneala et al. Therefore, it would have been obvious to one ordinary skilled in the art at the time of the applicant invention to combine the uncertainty evaluation method of Piratelli-Filho et al. with the method of Jamneala et al. because Piratelli-Filho et al. teaches obtaining expanded uncertainty results which proved simplified analysis (*see abstract*).

2.2 With regards to claim 2, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the simulator uses a harmonic balance simulation engine to produce the results *(see Jamneala et al. col.6 lines 7-17 (ADS simulator); also see Piratelli-Filho et al. section 2.2-3).*

2.3 As per claims 3, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the simulator uses a time-domain simulation engine to produce the results *(see Jamneala et al. col.6 lines 7-17 (ADS simulator); also see Piratelli-Filho et al. section 2.2-3).*

2.4 With regards to claim 4, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the simulator uses a linear S-parameter simulation engine to produce the results *(see Jamneala et al. col.6 lines 7-17 (ADS simulator); also see Piratelli-Filho et al. section 2.2-3).*

2.5 Regarding claim 6, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the plurality of uncertainty terms includes a test instrument

uncertainty term for a test instrument in the test system *(see Jamneala et al. fig.1; also see Piratelli-Filho et al. pg.1-4).*

2.6 As per claim 7, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the test instrument uncertainty term is selected from the group consisting of a temperature drift uncertainty term, an aging drift uncertainty term, an accuracy uncertainty term, and a repeatability uncertainty term *(see Piratelli-Filho et al. pg.1-4).*

2.7 Regarding claim 8, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the test system model includes a device under test and the step of running the sufficient number of iterations provides a first frequency to the device under test, and the results of the selected parameter are at a second frequency *(see Jamneala et al. fig.2B-4, col.1 lines 60-64& col.6 line 41-col.8 line 23; also see Piratelli-Filho et al. pg.1-4).*

2.8 With regards to claim 9, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the second frequency is a harmonic of the first frequency *(see Jamneala et al. fig.2B-4, col.6 line 41-col.7 line 38; also see Piratelli-Filho et al. pg.1-4).*

2.9 As per claim 10, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the second frequency is a mixing product of the first frequency and a third frequency *(see Jamneala et al. fig.2B-4, col.6 line 41-col.7 line 38; also see Piratelli-Filho et al. pg.1-4).*

2.10 Regarding claim 11, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the test system model includes a test instrument as a device under test *(see Jamneala et al. fig.1, col.1 lines 60-64, col.3 line 50-col.4 line 6; also see Piratelli-Filho et al. pg.1-4).*

2.11 As per claim 12, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the test system model includes a test fixture comprising a plurality of switches and a plurality of cables *(see Jamneala et al. fig.1, col.1 lines 60-64, col.3 line 50-col.4 line 6; also see Piratelli-Filho et al. pg.1-4)*.

2.12 With regards to claim 13, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach the step of running occurs at a first operating condition and further comprising steps of: running a sufficient number of iterations of the test system model on the simulator at a second operating condition while randomly varying each of the first portion of the plurality of uncertainty terms within probability distributions to produce a statistically significant number of second results of the selected parameter *(see Jamneala et al. fig.2B-5, col.6 line 41-col.8 line 23; also see Piratelli-Filho et al. pg.1-4)*; and evaluating the second results to determine a second measurement uncertainty of the selected parameter *(see Jamneala et al. fig.2B-5, col.6 line 41-col.8 line 23; also see Piratelli-Filho et al. pg.1-4)*.

2.13 As per claim 14, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach the step of running is done using a first type of simulation engine and further comprising steps of: running a second sufficient number of iterations of the test system model on the simulator using a second type of simulation engine while randomly varying each of the first portion of the plurality of uncertainty terms within probability distributions to produce a statistically significant number of second results of a second selected parameter *(see Jamneala et al. fig.2B-5, col.6 line 41-col.8 line 23; also see Piratelli-Filho et al. pg.1-4)*; and evaluating the

second results to determine a second measurement uncertainty of the second selected parameter *(see Jamneala et al. fig.2B-5, col.6 line 41-col.8 line 23; also see Piratelli-Filho et al. pg.1-4)*.

2.14 Regarding claim 15, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach the step of developing a computer-readable library of test system components with uncertainty terms, and wherein the step of entering the test system model into the simulator includes loading uncertainty terms associated with the test system components from the computer-readable library *(col.8 lines 35-45)*.

2.15 As per claim 16, the combined teachings of Jamneala et al. and Piratelli-Filho et al. substantially teach that the step of developing the test system model includes automatically generating system specifications *(fig.5, col.8 lines 12-23; also see Piratelli-Filho et al. pg.1-4)*.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jamneala et al. (U.S. Patent No. 6,804,807), in view of Piratelli-Filho et al. (Uncertainty Evaluation in small angle Calibration using ISO GUM Approach and Monte Carlo Method, June 2003), and further in view of Helisto et al. (Measurement Uncertainty in the 1/f noise region: Zener Voltage Standards, IEEE 2000).

3.1 Regarding claim 5, Jamneala et al., as modified by Piratelli-Filho et al. and applied to claims 1-4, and 6-16 above, teaches most of the instant invention. However, they do not clearly teach that the plurality of uncertainty terms includes a noise term. Helisto et al. substantially teaches a Measurement Uncertainty in the 1/f noise region (see title, pg.401-402). Piratelli-Filho et al., Jamneala et al., and Helisto et al. are analogous art because they are from the same field of endeavor and that the method teaches by Helisto et al. is similar to that of Jamneala et al. and Piratelli-Filho et al. Therefore, it would have been obvious to one ordinary

skilled in the art at the time of the applicant invention to combine the uncertainty measurement method of Helisto et al. with the method of Jamneala et al. and the uncertainty evaluation method of Piratelli-Filho et al. because Helisto et al. teaches a development that enable the measurements down to the fundamental noise limit of metrological devices (see pg.402).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4.1 Cedilnik (USPG_PUB No. 2005/0174562) teaches determining measuring uncertainty or error of a PDL-Tester.

4.2 Argilent ADS (Harmonic Balance Simulation on ADS, 01/2003).

4.3 Fisher (U.S. Patent No. 6,118,844) teaches a method and device for the determination of measurement uncertainties in X-Ray Fluorescence layer thickness.

4.4 Anritsu (Application Note: Three and Four Port S-parameter Measurements, 04/2002).

5. Claims 1-16 are rejected and **This Action is Non-Final**. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 17, 2007

APL

3/19/07

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100